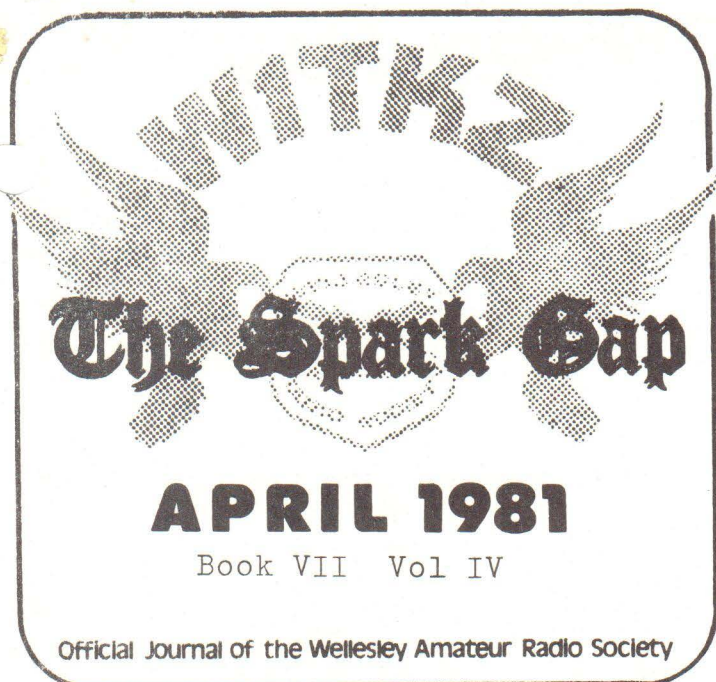




Activities

April is one of our busiest months with the auction and the B.A.A. Marathon occurring on the same weekend. People are still needed for both of these events. The auction will be held Saturday, April 18, and helpers will be needed starting at 9:00 am to set up the Wellesley High School cafeteria for the auction. Even if you cannot be there at the beginning or for the whole auction, plan on coming when you can as help will be needed throughout the day. And of course plan on staying for the traditional pizza party after.

The following Monday, April 20, is the day of the Boston Marathon. If you have not yet signed up for a position, contact Dick Paret, WA1ZLQ, at 762-5074 as soon as possible. Many positions must be manned to make communications possible for this big event.

These kind of events are what the Wellesley Amateur Radio Society is all about. Come out and take part! □

Elections

At the end of this issue you will find the candidates for the various offices in the Wellesley Amateur Radio Society for 1981/82. Elections will be held during the meeting on May 21,

1981 but if you will be unable to be present that evening, please fill out the enclosed ballot and mail it so it will arrive before May 21. To ensure the secrecy of your ballot do not put your name on the ballot itself, but do put your name and the date on the outside envelope so that if you find you are able to be present May 21, or if you change your mind after sending in the ballot, we can handle things accordingly.

The election of officers is one of the most important events in deciding the course of the club for the upcoming year. Please consider your selections and make a point of voting at the May 21 meeting or by mail. □

ANNOUNCEMENT

The business meeting and speaker meeting will be reversed in April to allow a more timely preparation for the BAA Marathon and auction. At the April 2 meeting we will have as our speakers David Curry, K1TK, and Nels Anderson, K1UR, to explain the new microprocessor controller on W1TKZ/R, 147.63/03, as well as the operation of our repeater in general. The talk will include general information on how the repeater is controlled, what new abilities it now has, and what is available to the user, as well as more technical details on how all this is accomplished both in hardware and in software. A slide show on these technical portions as well as showing the actual repeater equipment in operation will be included. Should be an interesting and informative evening and it will give you all a better idea of what exactly the club has been supporting in W1TKZ/R. Hope to see you there.

MEETINGS THIS MONTH:

April 2, 1981 at 7:30 pm

April 16, 1981 at 7:30 pm

Intermediate Bldg., Wellesley Hills, Mass.

PUBLICITY

In the ARRL "Public Information" kit on Public Relations for Amateur Radio are some tips from Lenore Jensen, W6NAZ who is one of the more active ARRL Public Relations Assistants. The following suggestions on what individuals can do to promote Amateur Radio are from her article:

Display your call letters: license plates, bumper stickers with words "Amateur Radio Operator". Wear a lapel pin or badge with your name and call letters. Put a sign on your mail box.

"Thou shalt not be responsible for creating TVI!" Set a good example when operating and encourage other Amateurs to do the same.

Distribute ARRL pamphlets. Keep them in your automobile along with handbills about your club's licensing classes.

Attend antenna height-restriction hearings. Write your elected representatives on all subjects dealing with Amateur Radio.

Help your publicity chairman make friends with the news media. If you know anyone working for newspapers, radio or television, introduce him or her to your PR chairman. Listen to radio and television, write down possible opportunities for publicity. Suggest to your chairman the best speakers and personalities in our ranks. Suggest news or feature items. Send thank you notes to editors, etc.

Consider publicity for any ham as publicity for all.

Send stories to Amateur Radio publications such as QST, Worldradio, etc. These are sometimes picked up by the news media.

If your company has a "house publication", this is an excellent opportunity for publicity. Look in the trade magazines for other possibilities.

In conversation with friends or acquaintances, bring the subject of Amateur Radio up frequently, but don't bore them! Teach children CW as a game. Name your pet rock CQ, QST, or ...?

When you run a phone patch, finish the call by reminding the person "this was by Amateur Radio." □

--via ARNS

OFFICIAL BULLETIN

Number 24, dated March 3, 1981:

Volunteers would be permitted to assist FCC in monitoring violations of Amateur and CB rules and in preparing and administering FCC examinations under a bill just introduced into the House by U.S. Representative William E. Dannemeyer, Republican of California. The bill, known as HR-2203, has been assigned to the Subcommittee on Telecommunications, Consumer Protection and Finance, Committee on Energy and Commerce. For more information on this bill, write to Perry Williams, W1UED, at ARRL Headquarters or see Happenings, April QST.

Number 23, dated March 3, 1981:

March 5 marks the completion of three years of successful operation for AMSAT OSCAR 8. The satellite will have provided flawless service to Amateur Radio operators, students, and science teachers worldwide during 15,280 orbits. To commemorate this anniversary, ARRL will issue a special QSL card. This QSL will feature the Russian 4 kopeck stamp devoted to Amateur Radio activities. The stamp shows the Russian Amateur Radio satellites RS1 and RS2. To receive this special commemorative QSL card, send an OSCAR 8 signal reception report providing as much information as possible, including calls heard, telemetry and frequency. The anniversary period will be March 1 through 7. Send your report to OSCAR 8 Third Anniversary, ARRL Club and Training Department, 225 Main St., Newington, Conn. 06111. □

hr REPORT

Space Shuttle Columbia's forthcoming launch will be celebrated by contacts with WB4ICJ, the Space Center ARS club station. They will operate from lift-off through the end of the launch day, on 7280, 14285, and 21380. Special launch day certificates will be available from Box 21073, Kennedy Space Center, Florida 32185 for a business-size SASE.

hr Report, February 27, 1981□

The Spark Gap

Official Journal of the Wellesley Amateur Radio Society



EDITOR-IN-CHIEF:

NELS J. ANDERSON, K1UR
32 WESTGATE ROAD, APT. 6
CHESTNUT HILL, MASS. 02167
323-5029

THE "SPARK GAP" IS A MONTHLY PUBLICATION OF THE WELLESLEY AMATEUR RADIO SOCIETY. ITS PRIMARY PURPOSE IS TO KEEP ITS MEMBERS ABREAST OF CURRENT HAPPENINGS, F.C.C. RULES & REGULATIONS CHANGES, AND TO LIST EQUIPMENT OFFERED FOR SALE OR TRADE BY MEMBERS. MEMBERS ARE ENCOURAGED TO CONTRIBUTE TO THE "SPARK GAP" AND MAY SENT THEIR ARTICLES (TYPEWRITTEN IF POSSIBLE) TO THE EDITOR-IN-CHIEF OR TO THE CLUB ADDRESS.

THE WELLESLEY AMATEUR RADIO SOCIETY IS A NON-PROFIT ORGANIZATION DEDICATED TO THE PROMOTION OF AMATEUR RADIO THROUGH INSTRUCTION, FELLOWSHIP, DEMONSTRATION, AND ENCOURAGEMENT OF PARTICIPATION. ANNUAL MEMBERSHIP IN THE SOCIETY IS \$8. THE CLUB YEAR RUNS SEPTEMBER 1 TO AUGUST 31. AMATEUR NOVICE AND GENERAL CLASSES ARE CONDUCTED REGULARLY AT NO COST. TO ENROLL IN A CLASS, OR GAIN INFORMATION ABOUT THE SOCIETY IN GENERAL, WRITE:

THE WELLESLEY AMATEUR RADIO SOCIETY
324 WASHINGTON STREET
WELLESLEY HILLS, MASS. 02181



OFFICIAL BULLETIN

Number 17, dated February 17, 1981:

At its meeting February 11, the Federal Communications Commission made changes in the power restrictions which apply in certain parts of the United States with respect to the 420 to 450 MHz band. Amateurs in Florida, Arizona, parts of Texas, New Mexico, California and Nevada, and areas within a 200 mile circle of Cape Kennedy, Florida and Eglin AFB, Florida continue to be restricted to 50 watts input in the 420 to 450 MHz band for terrestrial communications. Two new areas will come under the same restriction, within a radius of fifty miles from either Beale AFB, California or Otis AFB, Cape Cod, Massachusetts. However, there will be an automatic exemption for Amateurs attempting satellite communications only, on frequencies between 435 and 438 MHz, to facilitate future satellite communication. Provided that the half power point in the

Amateur stations radiation pattern remains at or above 10 degrees higher than the horizon, 1000 watts effective isotropic radiated power may be used by Amateurs operating from the restricted areas for satellite communications. The new rules go into effect on April 8, 1981. With respect to the terrestrial limitations, waivers continue to be available after coordination with the FCC District Engineer in Charge and the Military Area Frequency Coordinator.

Minutes

Meeting of February 19, 1981:

The meeting was opened at 7:58 pm by Vice President Erik Thoresen, K1OGF.

The secretary's and treasurer's reports were read. The treasurer announced that three renewals had come in so far as a result of the reminders sent out.

C.J. McDonald, WB1BUM, reminded us that elections are coming soon and nominations should be given to him as soon as possible.

Kevin Kelly, WA1YHV, gave a report on the auction preparations.

It was announced that the coax we had ordered had now arrived and even though we had decided to cancel the order now that it was here we would keep it and make the extra available to club members.

The business was closed at 8:11 pm and adjourned to the evening's speaker, Mort Cohan, KA1IU.

Meeting of March 5, 1981:

The meeting was opened at 7:44 pm by President David Curry, K1TK.

The secretary's report was read.

An update on the preparations for the BAA Marathon, April 20, was given.

Kevin Kelly, WA1YHV, gave a further update on auction preparations and it was announced that the fliers have been printed and are being distributed.

It was announced that on Sunday, April 5, the American Legion would like our help with a walkathon to be held in Wellesley. People will be needed starting at 9:00 am.

The treasurer's report was read. We now have seven renewals from the reminder mailing.

The meeting was closed at 8:46 pm. □

OLDE TIME RADIO

Origins of Radio Regulations

by Leland F. Gordy, WDØCOV

--from "The Transceiver", KVARC,
Topeka, Kansas

After a DX session highlighted by operators using "liddy" procedures, hams often CL, lean back and do a slow burn. "Oh," they weep, "for the spark gap and coherer days when courtesy was the byword of the airways."

Dream on, OM.

During the early days of the present century there was no legislation limiting the use of radio frequencies. Each QSO was an experience in high adventure.

If a commercial station wanted to transmit, it was often necessary to ask local Amateurs to stand by. This "self policing" was only as effective as the individuals involved.

In 1906 twenty-nine nations, including the United States, met in Berlin to consider the matter. The group adopted a list of basic regulations including the assignment of specific frequencies to certain services. The rules that resulted were limited in their scope and dealt primarily with military and maritime services.

Radio equipment improved rapidly and by 1909 the coherer had been largely replaced by the crystal detector. In 1922 DeForest's Audion became available for use. The scramble for the airways was on.

As the first decade of the present century ended there were about 10,000 Amateurs on the air. Spurred on by popular articles in the magazine Modern Electronics, their number increased rapidly.

As the equipment and skills of Amateur Radio operators improved, so did the distance of their contacts. QSOs of several hundred miles were common. It became apparent that some type of regulation would be required.

In 1912 the United States Congress passed a Radio Act that addressed itself to this problem. Regulation Fif-

teen of the new law provided that:

"No private or commercial station not engaged in the transaction of bona fide commercial business...shall use a transmitting wavelength exceeding 200 meters, or a transformer input exceeding one kilowatt..."

Many thought this was an attempt to destroy Amateur Radio since wavelengths of 200 meters and down were considered useless. Actually, this restriction caused Amateurs to innovate. Many developments in radio can be traced to this ruling.

World War I forced Amateur Radio operators off the air. Hundreds of Amateur Radio operators joined the military services and served with distinction in radio capacities.

With the end of the war the Federal Government delayed lifting the ban of Amateur operation. Hiram Percy Maxim, one of the founders of the American Radio Relay League, launched a crusade on behalf of Amateurs to have the restriction lifted. He was successful and Amateur Radio was opened up again in October 1919.

Equipment became more sophisticated. As the use of the vacuum tube expanded narrow transmitting signals became possible. New methods of operation required bandwidths only about 1% as wide as those previously used by spark.

In 1924, after ARRL negotiations with the Department of Commerce, Amateurs were authorized to use the 80, 40, 20 and 5 meter bands. With the opening of these radio spectra, the practical use of "skip distance" became apparent. True DX operation had dawned.

Further steps to codify and regulate the airways occurred in 1927 when the United States established the Federal Communications Commission. Present day operation procedures have been developed via the FCC, the ARRL and similar groups elsewhere.

And so, OM, when you pull the switch on your rig and start to do a slow burn, stop and think. We are the proud inheritors of the hard work of a long line of predecessors. Without their efforts, Amateur Radio would not be the great experience that it is today.

--via ARNS, July 1980

[illegible]

by Thomas F. Carten, K1PZU

I have a process which accelerates radio waves to speeds somewhat over that of light. This was once considered impossible, but it can now be achieved.

Einstein's theory states that an infinite amount of energy is required to accelerate a body to the speed of light (c) from any lower speed. However, this becomes ineffective for radio waves because they have no effective mass, and are already at (c). All they need is an additional "kick" to achieve the slightly higher velocity. This cannot be at RF because that would only increase the radiated RF power. It must be at the frequency of the "speed carrier"--light.

When additional light power is used (not light, but light power), then the speed is increased. The main effect is a gain of velocity above (c). This is more than enough to compensate for the velocity loss in the line. The primary secondary effect is that the signal will arrive first at any given point.

Do you see what this means? You hear a juicy DX station calling CQ, and instead of joining the pile-up, you turn on the accelerator and give him a call...allowing for the amount of acceleration.

Your signal, traveling faster than light (so, theoretically faster than time in the ordinary sense) will reach the DX station before he has sent his CQ--usually just when he is listening before calling--so you get the QSO. Same principle applies for WAS and contests--not to mention calling for traffic.

How it works: The RF signal is modulated in the usual way, and goes from the transmitter to the light accelerator for the velocity increase. It is vital that the line between these two be as short as possible, because of the low velocity factor of

all lines (.9 to .95) which will cancel some of the effects of the accelerator.

This light-power increase is not considered to be an RF power increase, and so the FCC has no objections to it. However, a log entry is required showing the amount of velocity increase (in percent) or the absolute negative-time lapse (gain) in seconds to the nearest tenth.

Signal acceleration is not planned to be the regular mode of operating, but only used when needed. You will find a tendency to lose the first few seconds of the other person's transmission, because he has answered your call before your receiver has had a chance to recover (unless you use full break-in), and often even before you have finished. This is because you gain a few seconds with the accelerator. If both you and your contact are using one, you will find that each person gains a little on the other, so that by the time you "tie the ribbons on it", you find that you have finished before you even began!

At this point, you might wonder why radio waves are invisible if they have light as a sort of carrier. They aren't; it's just hard to get the right conditions for seeing them. If you are fortunate enough to live near a high power directional broadcast station, try standing in the major lobe of the pattern (at night) and looking directly through it until you see the glow. This can only be done when there are no extraneous lights, and unfortunately a big fly in the ointment is the matter of the tower lights--they can easily wash out the softer radiation light.

The accelerator is built around a large (500 watt) light bulb, which modifies the RF wave, the bulb's special power supply voltage matching an inductor.

Recent days have brought great advances, including NBVM. This is the ground floor for SA, and I hope you can be among the pioneers.

(Editor's note: It would seem possible that N1ADX's QSO reported in his article "QSL Via Time-Warp Bureau" in the June 1980 Spark Gap is an example of an advanced form of SA. Further investigation would seem needed.)□

OFFICIAL BULLETIN

Number 28, dated March 13, 1981:

The Board of Directors of the ARRL met in Orlando, Florida on March 11 and 12, 1981, just before the ARRL National Convention. Among Board concerns was the effect of continuing high rates of inflation on ARRL financial reserves. Following a Management and Finance Committee report on the outlook for the next three years, the directors voted to increase the annual dues rate from \$18 to \$25 effective July 1, 1981. However, to ease the impact on older members, licensed Amateurs 65 years of age or older may request a special rate of \$20 per year. Postal surcharges make the rates slightly higher for members in Canada and overseas. Before July 1 members may apply for Life Membership or term membership for up to three years at the present rate.

In FCC matters the Board has requested that the Commission once again issue new club station licenses. ARRL will continue to press for return of full privileges in the band 1.8 to 2.0 MHz. A plan for developing and submitting an ARRL response to the FCC Plain Language regulation proposal was adopted. The Plans and Programs Committee was asked to reconsider the proposal for limited phone privileges in the 7 MHz band below 7100 kHz and to consider opening of the segment 3825 to 4000 kHz to General Class operation. □

Auctions / Flea Markets

April 11: South Shore Repeater Association auction, 9:00 am, at Central Junior High School, East Weymouth. Talk-in on 147.90/30. More information contact WB1WVP.

April 12: Framingham ARA spring flea market, rear of Framingham police station. Reservations and information via F.A.R.A., P.O. Box 3005, Framingham, Mass. 01701. Talk-in on 146.52 direct and 147.75/15. Food available. Set-up 9:00 am, doors open at 10:00 am.

April 18: Our own Wellesley ARS big auction, at Wellesley High School. Check-in starts at 10:00 am, auction

at 11:00. Please plan on being there about 9:00 am for set-up.

April 26: Middlesex ARC first annual indoor flea market, Wayland High School commons building. Starts at 10:00, admission \$1.00 Tables are \$6.00 in advance with reservations to Irving Geller, WA1CDW, Apt. 8422A, 1450 Worcester Road, Framingham, Mass. Talk-in on 147.96/36 and 146.52.

May 9: The 8th annual Hosstraders tailgate swapfest, Deerfield Fairgrounds, Deerfield, NH. Admission is \$1.00 for all. Excess revenues go to Boston burns unit of the Shriners Hospital for crippled children. Food available. Talk-in on 146.52 and 146.40/147.00. For questions or a map contact Norm Blake, WA1IVB, RFD Box 28, West Baldwin, Maine 04091.

May 16: The 76 repeater flea market and auction, Steeres Beach Club, Waterman Lake, Greenville, R.I. Use I-295 to exit 7B, take Route 44 west 3.4 miles. Talk in 146.16/76. Flea market is 10:00 am to noon, auction starts at noon. □

ELECTRONICS EXCHANGE

For Sale: Mobile radio, complete two meter synthesized transceiver, linear amplifier, antenna, microphone, separate speaker, shielded ignition system. As is: you remove it from the wreck. Best offer. Joe's Auto Wreckers, Dedham, Mass.

For Sale: Complete Rohn tower. Condemned by building inspector; no permit. Foundation 4x4x16 feet concrete must be removed too as tower is imbedded in it. Contact Fred, WH1P, at 555-1000 after 7:00 pm evenings. QSLs: Any call, handwritten or signature. Send sample filled out to a friend, and your check for \$5.00 and we will send you an absolutely undetectable duplicate, with your own call filled in. Achieve the Honor Roll for \$1600 and save all that time! Write to QSLs Unlimited, Box 73, Wellesley, Mass. □

Deadline for the May Spark Gap is April 15.

hr REPORT

A 10 MHz beacon has been authorized for a Silver Spring, Maryland, Amateur. The FCC has granted N4DR experimental license KK2XGM for operations on 10.1-10.15 MHz on a non-interfering basis, with 20 watts out. Thus far he's been on 10.125 weekday evenings at 0100-0130Z and 0200-0230Z. Assisting in the project are N3AXN and N4YE; operations began last week. Reception reports are sought, and will be QSLed with an SASE.

hr Report, March 13, 1981

FCC's acting chairman is Robert E. Lee, confirming earlier predictions. In a just-circulated memo titled "Nobody on the Street," Chairman Lee assured the Commission staff there'd be no purges during the transition to the Reagan presidency. He did however point out that, under the budget limits imposed by the new President's austerity program, many activities, particularly travel, would be severely cut back. Don't look for official FCC representation at hamfests or conventions for the foreseeable future. In the memo he also referred to his "brief administration," confirming his role as a caretaker until a chairman of President Reagan's choice is nominated and confirmed.

Mark Fowler continues to top the list of potential chairmen. He's a 39 year old lawyer whose firm represents various broadcast interests, so he knows his way around both Washington and the FCC. He's also an active Republican, and has advised the President on communications matters. Commissioner Tyrone Brown's recent resignation leaves an opening for Fowler's appointment whenever the President wishes, and another vacancy will occur in April when Commissioner Ferris's term expires. He's decided to stay on until April 10, when he becomes eligible for a Federal pension. Commissioner Lee's term ends in June.

hr Report, February 13, 1981

FCC's new form 610 is causing enough Amateurs problems that a significant number of the forms are being returned without action. Principal confusion with the August, 1980, version (the only one now valid) is with questions 2A-2J; 2A should be checked only if there are no changes, 2G only if there is any change in name, such as dropping "Jr." (the former name must also be given), and 2H and/or 2I, which must be checked if the mailing address or station location are changed. Questions 3 through 17 must also be answered, and failure to include the original or a photocopy of the license is also bouncing a number of applications.

hr Report, February 17, 1981

OFFICERS

PRESIDENT:

David Curry, K1TK, 237-2450

VICE PRESIDENT:

Erik Thoresen, K1OGF, 653-1216

CORRESPONDING SECRETARY:

Bill Hanlon, N1ADY, 384-8056

RECORDING SECRETARY:

Nels Anderson, K1UR, 323-5029

TREASURER:

Jim Hatherley, WA1TBY, 254-6042

OPERATING ACTIVITIES:

Glenn Brodie, N1ACN, 443-8677

FUND RAISING:

Kevin Kelly, WA1YHV, 242-0341

EDUCATION CHAIRMAN:

Bill Downing, WA1PQY, 655-3040

EMERGENCY COORDINATOR:

David Curry, K1TK, 756-5325

TECHNICAL COMMITTEE:

Mort Cohan, KA1IU, 359-7979

ELECTION COMMITTEE:

C.J. McDonald, WB1BUM, 332-6091

STATION MANAGER:

Erik Thoresen, K1OGF, 653-1216

TRUSTEE:

Lud Fasolino, K1LF, 237-0316

REPEATER COMMITTEE:

David Curry, K1TK, 237-2450

Bill Downing, WA1PQY, 655-3040

Scott Nacey, WA1YOJ, 235-1599

Dick Paret, WA1ZLQ, 762-5074

BALLOT

This ballot provides for voting for club officers for the club year September 1, 1981 through August 31, 1982.

It is certified that the following persons have been nominated for the office shown and that each person has accepted the nomination and will serve if elected.

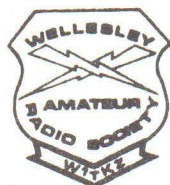
Please vote for only one candidate for each office by putting an "X" in the space before that person's name.

If this ballot is to be mailed as an absentee ballot, please date and sign the envelope. Please do not sign this ballot to preserve the secrecy of your vote.

PRESIDENT:	___	David Curry, K1TK
	___	Erik Thoresen, K1OGF
VICE PRESIDENT:	___	Dick Paret, WA1ZLQ
	___	Roger Smith, W1EOF
TREASURER:	___	C.J. McDonald, WB1BUM
RECORDING SECRETARY:	___	Nels Anderson, K1UR
CORRESPONDING SECRETARY:	___	Saul Dinman, K1PDX
FUND RAISING:	___	Kevin Kelly, WA1YHV
OPERATING ACTIVITIES:	___	David Kent, N2AWG
	___	Dick Paret, WA1ZLQ

Mailed in ballots must be received at the club by May 21 to be counted! Don't be late.

The Spark Gap



**WELLESLEY
AMATEUR RADIO
SOCIETY**

324 Washington Street
Wellesley Hills, Massachusetts 02181

M E M B E R



Amateur Radio News Service

FIRST CLASS MAIL